WHAT IS CLAIMED IS:

1. A photodiode array comprising:

a substrate having a first surface and a second surface;

an absorption layer formed on said first surface;

a cladding layer formed on said absorption layer;

a plurality of anodes formed on said cladding layer; and

a plurality of trenches formed in said absorption layer and said cladding layer, wherein each trench has a depth so as to divide the absorption layer into subdivisions.

2. The photodiode array of Claim 1, further comprising a cathode, wherein said cathode comprises windows formed therein.

3. The photodiode array of Claim 2, further comprising an antireflection layer formed in each of said windows.

4. The photodiode array of Claim 1, further comprising an antireflection layer formed on said cladding layer and in said plurality of trenches.

5. The photodiode array of Claim 1, wherein said absorption layer has a thickness of 3 μm or more.

6. The photodiode array of Claim 1, further comprising a buffer layer formed between said first surface of said substrate and said absorption layer.

7. The photodiode array of Claim 1, wherein said plurality of anodes are ring shaped.

8. A photodiode array comprising:

a substrate having a first surface and a second surface;

an absorption layer formed on said first surface;

a cladding layer formed on said absorption layer;

a plurality of anodes formed on said cladding layer; and

a cathode deposited on said second surface, wherein said cathode comprises windows formed therein.

9. The photodiode array of Claim 8, further comprising an antireflection layer formed in each of said windows.

10. The photodiode array of Claim 8, further comprising a buffer layer formed between said first surface of said substrate and said absorption layer.

11. The photodiode array of Claim 8, wherein said plurality of anodes are ring shaped.

12. The photodiode array of Claim 8, wherein said absorption layer has a thickness of at least 3 μm.

13. A method for forming a photodiode array, said method comprising:

depositing an absorption layer on a first surface of a substrate; and

forming a plurality of trenches having a depth so as to divide said absorption layer into subdivisions.

14. The method of Claim 13, further comprising forming a cladding layer over said absorption layer before forming said trenches.

15. The method of Claim 13, further comprising depositing an antireflection layer.

16. The method of Claim 15, wherein said antireflection layer is deposited by plasma chemical vapor deposition.

17. The method of Claim 15, further comprising partially removing said antireflection layer so as to form a plurality of exposed regions.

18. The method of Claim 17, further comprising forming an anode in each of said plurality of exposed regions.

19. The method of Claim 18, wherein said anodes are formed using electron beam vapor deposition.

20. The method of Claim 13, further comprising depositing a buffer layer between said first surface of said substrate and said absorption layer.

21. The method of Claim 13, wherein said plurality of trenches are formed by etching.

22. The method of Claim 13, wherein said plurality of trenches are formed by machining.

23. The method of Claim 13, further comprising forming a windowed cathode layer on a second surface of said substrate parallel to said first surface of said substrate.

24. The method of Claim 23, further comprising forming an antireflection layer in said windows.

25. A photodiode array made with the method of Claim 13.

26. A method of making a photodiode array comprising:

depositing an absorption layer on a first surface of a substrate; and

depositing at least one electrical contact on a second opposing surface of said substrate, wherein said electrical contact contains windows in locations corresponding to selected regions of said absorption layer.

27. The method of Claim 26, additionally comprising depositing an antireflective layer in said windows.

28. A photodiode array made with the method of Claim 26.

29. A method of suppressing cross talk in a photodiode array comprising forming trenches between adjacent light absorbing regions of the array.

30. The method of Claim 29, wherein said light absorbing regions comprise InGaAs.

31. The method of Claim 29, further comprising forming a plurality of windows in a cathode layer, opposite said light absorbing regions.

32. The method of Claim 31, further comprising forming an antireflective layer over said windows.

33. The method of Claim 29, further comprising forming an antireflective layer over said light absorbing regions and in said trenches.

34. A photodiode module comprising:

a ferrule having a plurality of fiber holes extending through a front wall for receiving a corresponding plurality of optical fibers and a centrally located rectangular opening for receiving an optical bench and a wiring component;

an optical bench fixed to said ferrule and aligned in said rectangular opening; and

a photodiode array attached to a surface of said optical bench, wherein said photodiode array comprises at least two light absorbing regions separated by a trench which is configured and positioned such that light transfer between said light absorbing regions is inhibited.

35. The photodiode module of Claim 34, further comprising

a lead frame package comprising a frame having a lead pattern of electrical wiring thereon, and a plurality of lead terminals having distal ends protruding from said frame; and

a wiring component for electrically connecting said optical bench to said lead frame package.

36. The photodiode module of Claim 34, wherein said apparatus for aligning said optical bench comprises:

a plurality of grooves, in the form of a truncated pyramid, formed in said front surface of said optical bench on opposite sides of said photodiode array;

a plurality of pin holes extending through said front wall of said ferrule;

a plurality of balls positioned between respective pin holes in said ferrule and said plurality of grooves in said optical bench, so as to position said light receiving regions of said photodiode array with said optical fibers in said ferrule.

37. The photodiode module of Claim 36, further comprising a plurality of guide pins inserted in said pin holes so as to connect said ferrule to an optical connector having optical fibers and an optical connector ferrule, and so as to align said optical fibers in said ferrule in said photodiode module with said optical fibers in said optical connector.

38. The photodiode module of Claim 34, wherein said optical bench is made of a material capable of transmitting leakage light from the photodiode array therethrough.

39. The photodiode module of Claim 34, wherein said optical bench further comprises a window for transmitting leakage light from said photodiode array therethrough.

40. A photodiode array comprising an absorption layer deposited on a first surface of a substrate, a plurality of light receiving regions formed in said absorption layer, and a plurality of trenches formed between adjacent light receiving regions such that said absorption layer is divided into subdivisions, wherein said absorption layer has a thickness of at least 3 μm, and wherein said trenches are at least about 9 μm deep.

41. A photodiode array comprising at least two light absorbing regions separated by a trench which is configured and positioned such that light transfer between said light absorbing regions is inhibited.

42. A photodiode array comprising:

a layered structure deposited on a substrate, said layered structure comprising at least two light absorbing portions; and

at least one trench formed into said layered structure and positioned between said at least two light absorbing portions.

43. A photodiode array comprising:

a substrate having first and second opposing surfaces;

a layered structure comprising a plurality of light absorbing regions deposited on said first opposing surface; and

an electrical contact deposited onto said second opposing surface, and covering only a portion of said second opposing surface such that at least one window is formed in said electrical contact at a location substantially corresponding to the location of at least one of said plurality of light absorbing regions.

44. A photodiode array comprising:

a plurality of light absorbing regions; and

means for reducing crosstalk by inhibiting light transfer between at least two of said light absorbing regions.

45. The photodiode array of Claim 44, wherein said means comprises one or more trenches.

46. The photodiode array of Claim 44, wherein said means comprises a windowed cathode.

47. The photodiode array of Claim 44, wherein said means comprises both trenches and a windowed cathode.

48. The photodiode array of Claim 47, wherein said means comprises an anti-reflective coating on at least some surfaces of said array.